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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission	16

Application Number	10/736,487-Conf. #3809
Filing Date	December 15, 2003
First Named Inventor	Robert H. Chiang
Art Unit	3744
Examiner Name	M. M. Ali
Attorney Docket Number	210_875RCE

ENCLOSURES (*Check all that apply*)

- [x] Fee Transmittal Form
  - [ ] Fee Attached
- [ ] Amendment/Reply
  - [ ] After Final
  - [ ] Affidavits/declaration(s)
- [ ] Extension of Time Request
- [ ] Express Abandonment Request
- [ ] Information Disclosure Statement
- [ ] Certified Copy of Priority Document(s)
- [ ] Reply to Missing Parts/ Incomplete Application
  - [ ] Reply to Missing Parts under 37 CFR 1.52 or 1.53
- [ ] Drawing(s)
- [ ] Licensing-related Papers
- [ ] Petition
- [ ] Petition to Convert to a Provisional Application
- [ ] Power of Attorney, Revocation Change of Correspondence Address
- [ ] Terminal Disclaimer
- [ ] Request for Refund
- [ ] CD, Number of CD(s) _____
  - [ ] Landscape Table on CD
- [ ] After Allowance Communication to TC
- [ ] Appeal Communication to Board of Appeals and Interferences
- [x] Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- [ ] Proprietary Information
- [ ] Status Letter
- [x] Other Enclosure(s) (please Identify below):

  Return Mailroom Postcard

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	MARJAMA & BILINSKI LLP		
Signature	William W. Habelt		
Printed name	William W. Habelt		
Date	May 29, 2007	Reg. No.	29,162

Transmittal

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the U.S. Postal Service as Express Mail, Airbill No. EM047971768US, on the date shown below in an envelope addressed to: MS Appeal Brief - Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Dated: May 29, 2007 Signature: Christine M. Holmes

Christine M. Holmes

PTO/SB/17 (05-07)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Effective on 12/08/2004.
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL
For FY 2007

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($) 500.00

Complete if Known	
Application Number	10/736,487-Conf. #3809
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Art Unit	3744
Attorney Docket No.	210_875RCE

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

☒ Deposit Account Deposit Account Number: 03-0835 Deposit Account Name: CARRIER CORPORATION

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, **except for the filing fee**

☒ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☒ Credit any overpayments

FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

	FILING FEES		SEARCH FEES		EXAMINATION FEES		
		Small Entity		Small Entity		Small Entity	
Application Type	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fees Paid ($)
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

Total Claims	Extra Claims	Fee ($)	Fee Paid ($)
_____ - =	_____	x _____	= _____

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims	Extra Claims	Fee ($)	Fee Paid ($)
_____ - =	_____	x _____	= _____

HP = highest number of independent claims paid for, if greater than 3.

Multiple Dependent Claims: Fee ($) _____ Fee Paid ($) _____

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee ($)	Fee Paid ($)
_____ - 100 =	_____	/50 = _____ (round up to a whole number) x	_____	= _____

4. OTHER FEE(S) Fees Paid ($)

Non-English Specification, $130 fee (no small entity discount)

Other (e.g., late filing surcharge): 1402 Filing a brief in support of an appeal 500.00

SUBMITTED BY

Signature	William W. Habelt	Registration No. (Attorney/Agent)	29,162	Telephone	(315) 425-9000
Name (Print/Type)	William W. Habelt			Date	May 29, 2007

Fee Transmittal

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Dated: May 29, 2007 Signature: _____ Christine M. Holmes

Practitioner's Docket No.: 210_875RCE (formerly 9930A) *PATENT*

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the application of: Robert Hong Leung Chiang et al.

Ser. No.: 10/736,487 Group Art Unit: 3744

Filed: December 15, 2003 Examiner: Ali, Mohammad M.

Confirmation No.: 3809

For: MEDIUM TEMPERATURE REFRIGERATED MERCHANDISER

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Christine M. Holmes

APPEAL BRIEF

Sir:

This Appeal Brief is filed in furtherance of the Notice of Appeal, transmitted in this application on March 29, 2007, appealing the final rejection issued by Examiner Ali of Group Art Unit 3744 on January 8, 2007, rejecting all pending claims

The Commissioner is hereby authorized to charge any fee that may be required with respect to the filing of this Appeal Brief to Deposit Account No. 03-0835.

The Commissioner is hereby authorized to charge any additional fees associated with this Appeal or credit any overpayment to Deposit Account No. 03-0835.

1. REAL PARTY IN INTEREST

The real party in interest in this Appeal is Carrier Corporation. This application is a continuation of parent application serial number 09/849,209, now U.S. Patent No. 6,679,080. The assignment to Carrier Corporation from the inventors is recorded in the United States Patent and Trademark Office against the parent application at Reel 012131, Frame 0228 and following.

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2. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to Appellant's legal representative, or assignee, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending Appeal.

3. STATUS OF CLAIMS

Claim 1-5 (cancelled)

Claim 6 (finally rejected and on appeal)

Claim 7 (finally rejected and on appeal)

Claim 8 (finally rejected and on appeal)

Claim 9 (finally rejected and on appeal)

Claim 10 (finally rejected and on appeal)

Claim 11 (finally rejected and on appeal)

Claim 12 (finally rejected and on appeal)

Claim 13 (finally rejected and on appeal)

Claim 14 (finally rejected and on appeal)

Claim 15 (finally rejected and on appeal)

Claim 16 (finally rejected and on appeal)

Claim 17 (finally rejected and on appeal)

Claim 18 (finally rejected and on appeal)

4. STATUS OF AMENDMENTS

All amendments have been entered.

5. SUMMARY OF CLAIMED SUBJECT MATTER

With respect to independent claim 6, the claimed subject matter is directed to a medium temperature refrigerated merchandiser system (page 6, line 24 – page 7, line 4; Figs.1-2, reference 10) including an insulated cabinet (page 7, line 7; Figs. 3-4, reference 110) defining a product display area (page 7, line 7; Figs. 2-3, reference 125) maintained in a refrigerated condition at a temperature above 32 degrees F and having a compartment (page 7, line 9-11; Figs. 2-4) separate from the product display area 125. A relatively high air side pressure drop evaporator (page 5, lines 16-17; Figs. 1-4, reference 40) is disposed within the compartment 120. At least one air circulator (page 7, lines 11-15; Figs. 2-4, reference 70) is disposed within the compartment 120 in cooperative relationship with the evaporator 40. An air circulation circuit (page 7, lines 11-15; Fig. 3, references 112, 114,

116) connects the product display area in direct air flow communication with the compartment.

With respect to independent claim 9, the claimed subject matter is directed to a medium temperature refrigerated merchandiser system (page 6, line 24 – page 7, line 4; Figs.1-2, reference 10) including an insulated cabinet (page 7, line 7; Figs. 3-4, reference 110) defining a product display area (page 7, line 7; Figs. 2-3, reference 125) maintained in a refrigerated condition at a temperature above 32 degrees F and having a compartment (page 7, line 9-11; Figs. 2-4) separate from the product display area 125. A relatively high air side pressure drop fin and tube heat exchanger evaporator having a fin density of at least 6 fins per inch (page 8, lines 17-28; Fig. 4, reference 40) is disposed within the compartment 120. At least one air circulator (page 7, lines 11-15; Figs. 2-4, reference 70) is disposed within the compartment 120 in cooperative relationship with the evaporator 40. An air circulation circuit (page 7, lines 11-15; Fig. 3, references 112, 114, 116) connects the product display area in direct air flow communication with the compartment.

With respect to independent claim 10, the claimed subject matter is directed to a medium temperature refrigerated merchandiser system (page 6, line 24 – page 7, line 4; Figs.1-2, reference 10) including an insulated cabinet (page 7, line 7; Figs. 3-4, reference 110) defining a product display area (page 7, line 7; Figs. 2-3, reference 125) maintained in a refrigerated condition at a temperature above 32 degrees F and having a compartment (page 7, line 9-11; Figs. 2-4) separate from the product display area 125. A relatively high air side pressure drop fin and tube exchanger evaporator having a fin density in the range of 6 fins per inch to 15 fins per inch (page 7, lines 17-31; Fig. 4, reference 40) is disposed within the compartment 120. At least one air circulator (page 7, lines 11-15; Figs. 2-4, reference 70) is disposed within the compartment 120 in cooperative relationship with the evaporator 40. An air circulation circuit (page 7, lines 11-15; Fig. 3, references 112, 114, 116) connects the product display area in direct air flow communication with the compartment.

With respect to claims 12, 15 and 17, which are dependent from claims 6, 9, 10, respectively, the at least one air circulator comprises a plurality of fans (page 9, lines 13-22; Fig. 4, reference 70) disposed in spaced relationship along said evaporator at spaced intervals of about 2 feet.

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 6-11, 13-14, 16 and 18 stand finally rejected under 35 U.S.C. §103(a) as being unpatentable over Renard, U.S. Patent No. 5,502,979, in view of Kutscher et al., U.S. Patent No. 6,378,605.

2. Claims 12, 15 and 17 stand finally rejected under 35 U.S.C. §103(a) as being unpatentable over Renard, U.S. Patent No. 5,502,979, in view of Kutscher et al., U.S. Patent No. 6,378,605, and further in view of Navarro, U.S. patent 6,145,327.

7. ARGUMENTS DIRECTED TO EACH AND EVERY REJECTION

1. Claims 6-11, 13-14, 16 and 18 stand finally rejected under 35 U.S.C. §103(a) as being unpatentable over Renard, U.S. Patent No. 5,502,979, in view of Kutscher et al., U.S. Patent No. 6,378,605.

Renard is cited as disclosing a refrigerated display cabinet comprising an insulated cabinet 50 defining a product display area/shelves 1 maintained in a refrigeration condition at a temperature above 32 degree F and having a compartment 37 separate from the product display area 1, an evaporator 28 disposed in the compartment 37; at least one air circulator 29 disposed within the compartment 37 in cooperative relationship with the evaporator 28; and an air circulation circuit (23-26) connecting the product display area 1 and in direct flow communication with the compartment 37. The Examiner concludes that Renard discloses the invention substantially as claimed, but concedes that Renard does not disclose a relatively high airside pressure drop evaporator. The Examiner cites Kutscher et al. as teaching the use of a high airside pressure drop heat exchanger 10 with a fin density ranging from 3 fins to 10 fins per inch in a heat exchanging system for the purpose of controlling pressure drop. The Examiner also cites Kutscher et al. as disclosing a draw through flow by the action of fan 12, referring specifically to Figure 1 and column 12, lines 31-67. It is the opinion of the Examiner that it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the refrigerated display cabinet of Renard in view of Kutscher et al. such that a high airside pressure drop heat exchanger with a fin density ranging from 3 to 10 fins per inch could be provided in order to run a refrigeration system.

Kutscher et al. do recognize that a higher fin density heat exchanger will characteristically exhibit a higher air-side pressure drop relative to a lower fin density heat exchanger. However, Appellant respectfully submits that Kutscher et al. can not be read to teach or motivate one having ordinary skill in the art to provide a relatively high air side pressure drop evaporator in the environment of a medium temperature refrigerator such as in

Renard wherein the evaporator is subject to frost formation on the fins due to the presence of moisture in the air passing from the refrigerated food storage compartment of the refrigerator and through the space between the fins of the evaporator.

It is well appreciated by those of ordinary skill in the art of refrigeration that the evaporator of a medium temperature merchandiser will be subject to frost formation on the fins due to the presence of moisture in the air passing from the refrigerated food storage compartment of the refrigerator and through the space between the fins of the evaporator. For decades, it has been conventional practice in the prior art to employ only low fin density heat exchangers as evaporators whereby the spacing between neighboring fins will be large enough to limit frost bridging the space between neighboring fins which would block air flow thereby worsening air flow maldistribution through the evaporator and adversely impacting overall evaporator performance. A detailed discussion of the problem of frost formation and conventional practice in the design of refrigerated merchandisers in view thereof is provided in the specification of the application under appeal at page 1, line 20 through page 2, line 23.

Contrary to conventional practice, the subject invention provides a medium temperature refrigerated merchandiser having a relatively high air side pressure drop evaporator (claim 6). In an embodiment, the relatively high air side pressure drop evaporator may comprise a fin and tube heat exchanger having a fin density of at least 6 fins per inch (claim 9). In an embodiment, the relatively high air side pressure drop evaporator may comprise a fin and tube heat exchanger having a fin density in the range of 6-15 fins per inch (claim 10). The air flow velocity profile leaving the evaporator of a merchandiser having a relatively high fin density will be more uniform than the air flow velocity profile leaving the evaporator of a conventional prior art unit equipped with a relatively low fin density evaporator. At the time the subject invention was made, the accepted practice in medium temperature refrigerated merchandiser design was to use a relatively low fin density evaporator, i.e. typically from 2 to 4 fins per inch, in view of the desire to delay frost bridging between fins as frost builds up during operation of a medium temperature refrigerated merchandiser.

The general object of Kutscher et al. is to provide a gas-fluid heat exchanger having increased heat transfer per degree of temperature difference between the gas flowing over the finned tubes and the fluid passing through the tubes (UA) and improved ratio of UA to pressure drop (see column 3, lines58-60). Kutscher et al. teach doing so (see column 5, lines 53-58) by enhancing the heat transfer coefficients of a fin and tube heat exchanger by

increasing the gas side heat transfer coefficient and minimizing the gas side pressure drop. Kutscher et al. does not at all address the issue of, or even recognize the problems attendant to, frost formation and build-up between closely spaced fins. Applicants respectfully submit that Kutscher et al. fail to do so because they did not intend their higher fin density, porous fin heat exchanger to be employed in the environment of a medium temperature refrigerated merchandiser wherein frost formation would be a performance issue. In fact, at column 12, lines 44-47, Kutscher et al. state:

> "In another preferred embodiment, a lower fin density, i.e. less than 3 fins per inch, is employed to reduce pressure drop by widening the channels and reducing channel pressure drop."

It is respectfully submitted that one having ordinary skill in the art of refrigeration system design looking to Kutscher et al. would only have been motivated, at the time the invention was made, to select this low fin density embodiment of the heat exchanger Kutscher et al., in accord with the conventional practice of desiring a low pressure drop and wide fin spacing for frosting applications. There is no teaching, suggestion or motivation in Kutscher et al. that would have led one designing a medium temperature refrigerated merchandiser to go against the conventional practice at the time of the invention and instead select the high fin density embodiment of the heat exchanger disclosed by Kutscher et al. to provide a high airside pressure drop evaporator, contrary to conventional practice. Accordingly, it is respectfully submitted that one skilled in the art on the time of the invention, applying the teachings of Kutscher et al. to Renard would select an evaporator having wide fin spacing and no higher pressure drop than the original Renard evaporator, which would not improve air flow uniformity.

The Examiner argues that the modification of Renard in view of Kutscher et al. does not require a finding of motivation against frost formation and build up between closely fins because it is not the claimed subject matter. It is respectfully submitted that frost formation is inherently a factor in the claimed medium temperature refrigerator since the product display space is, as recited in each of independent claims 6, 9 and 10, maintained in a refrigerated condition at a temperature above 32 degrees F. In such a temperature environment, the colder evaporator surface contacted by the cool, moist air from the product display space would be subject to frost forming thereon due to the presence of moisture in the air passing through the evaporator. Further, the Examiner argues that any heat exchanger may not be concerned with frost formation unless it is an evaporator and that if the Kutscher et al. heat exchanger were used as an evaporator it will inherently address the

problem of frost formation and build-up between the fins as it meets the constructional feature of higher fin density and higher air-side pressure drop. However, it is respectfully submitted that even though Kutscher et al. do disclose a heat exchanger embodiment that has a higher fin density and therefore a higher air-side pressure drop, absent motivation in the cited art to least to try that higher density in a "frost formation" environment, one skilled in the art at the time of the invention would not be lead to make the combination proffered by the Examiner. Further, as noted before, Kutscher et al. also teach a heat exchanger embodiment that has a low fin density (less than 3 fins per inch) and a low air side pressure drop. Accordingly, it is respectfully submitted that one skilled in the art of refrigeration system design would at the time the invention was made have at best been led by Kutscher et al. to apply only the disclosed low air side pressure drop embodiment of the Kutscher et al. heat exchanger in a "frost formation" application in accord with conventional practice.

The Examiner also mentions that a heat exchanger can be used as an evaporator or condenser for an evaporator or condenser for an air conditioner circuit, a radiator or a heater core for a vehicle, or other type of heat exchanger, referencing column 1, lines 10-12 of Akoi, U.S. Patent 5,214,847. Appellant notes that Kutscher et al. also mention (col. 1, lines 26-29) that: "Many heat exchangers currently in use, such as in air conditioners, automotive radiators, process industry air-cooled condensers, and boilers, transfer heat between a gas and a single or multi-phase liquid." It is respectfully submitted that the various applications mentioned in Akoi and in Kutscher et al. are not "frost formation" applications. In conventional air conditioning applications, moisture commonly condenses out of the air passing through the evaporator onto the evaporator heat exchanger surface as a liquid condensate, particularly when the air being conditioned has a high humidity. However, it is a relatively rare instance indeed when the condensation would form frost on the evaporator heat exchanger as the relatively warm temperature of the air passing through the air conditioner . It is respectfully submitted that the cited mentions in Akoi or in Kutscher et al. can not be read to teach the use of a high air side pressure drop evaporator in a medium temperature refrigerated merchandiser.

Accordingly, it is respectfully submitted that claims 6-11, 13-14, 16 and 18 are patentable over Renard, U.S. Patent No. 5,502,979, in view of Kutscher et al., U.S. Patent 6,378,605.

2. Claims 12, 15 and 17 stand finally rejected under 35 U.S.C. §103(a) as being unpatentable over Renard, U.S. Patent No. 5,502,979, in view of Kutscher et al., U.S. Patent No. 6,378,605, and further in view of Navarro, U.S. patent 6,145,327.

Further regarding claims 12, 15 and 17, the Examiner concludes that Renard in view of Kutscher et al., as applied to claims 6, 9 and 10 above, discloses the invention substantially as claimed, but concedes that Renard in view of Kutscher et al. does not disclose a plurality of fans. The Examiner cites Navarro as teaching the use of a plurality of fans 16 along an evaporator coil 17 in a refrigerated case for the purpose of running a refrigeration system, referring specifically to Figure 7. The Examiner concludes that it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the refrigerated display cabinet of Renard in view of Kutscher et al. and further in view of Navarro such that a plurality of fans could be provided in order to run a refrigeration system. The Examiner considers the spacing of the fans at a specific distance of two feet to be an obvious design choice of the individual skilled in the art absent any critically or unexpected result from it.

Navarro discloses a refrigerated display case wherein a plurality of evaporator fans are provided in association with an air flow divider perforated rear panel used to distribute air flow passing therethrough into the product display space. Given the preferred inside width of 48 inches for the interior of the refrigerated showcase of Navarro (see column 8, lines 1-2) and the disclosed number of evaporator fans being four (see column 8, lines 42-44 and Fig. 7, reference 16), the fans of Navarro are spaced along the evaporator at intervals of less than one foot. However, Navarro does not teach, suggest or motivate one skilled in the art to use of a plurality of fans in combination with a relatively high air side pressure drop evaporator. Nor does Navarro recognize the advantage of using a plurality of fans in combination with a high air side pressure drop in a medium temperature refrigerated merchandiser system to provide a more uniform distribution of air flow through the evaporator. Rather, at best, Navarro teaches using a flow divider and a perforated rear panel in connection with a plurality of fans to improve flow distribution. It is respectfully submitted that there is no teaching or disclosure in Navarro, taken alone or in combination with Kutscher et al., that would lead one having ordinary skill in the art to replace the finned evaporator/air circulation fan assembly of Renard with a plurality of fans spaced at about two foot intervals along the length of a high air side pressure drop evaporator as recited in claims 12, 15 and 17. Accordingly, it is respectfully submitted the claims 12, 15 and are patentable over Renard, U.S. Patent 5,502,979, in view of Kutscher et al., U.S. Patent 6,378,605 and further in view of Navarro, U.S. Patent 6,145,327.

8. CONCLUSION

Accordingly, Appellants respectfully submit that based on the arguments set forth herein, claims 6-18 are in condition for allowance.

Appellants respectfully request that the rejections of the Examiner be reversed and that the appealed claims 6-18 be allowed to issue.

Respectfully submitted,

WALL MARJAMA & BILINSKI LLP

Date: May 29, 2007

By: 

William W. Habelt, Reg. No. 29,162
Attorney of Record

WWH/cmh
Telephone: (315) 425-9000

Customer No.: 20874

CLAIMS APPENDIX

COPY OF CLAIMS APPEALED

6. A medium temperature refrigerated merchandiser system comprising:

an insulated cabinet defining a product display area maintained in a refrigerated condition at a temperature above 32 degrees F and having a compartment separate from the product display area;

a relatively high air side pressure drop evaporator disposed within said compartment;

at least one air circulator disposed within said compartment in cooperative relationship with said evaporator; and

an air circulation circuit connecting said product display area in direct air flow communication with said compartment.

7. A medium temperature refrigerated merchandiser system as recited in claim 6 wherein said relatively high air side pressure drop evaporator comprises a fin and tube heat exchanger having a fin density in the range of 6 fins per inch to 15 fins per inch.

8. A medium temperature refrigerated merchandiser system as recited in claim 6 wherein said fins of said evaporator have an enhanced heat transfer configuration.

9. A medium temperature refrigerated merchandiser system comprising:

an insulated cabinet defining a product display area wherein product is maintained in a refrigerated condition at a temperature at or above 32 degrees F and having a compartment separate from the product display area;

a relatively high air side pressure drop evaporator disposed within said compartment, said evaporator being a fin and tube exchanger having a fin density

of at least 6 fins per inch;

at least one air circulator disposed within said compartment in cooperative relationship with said evaporator; and

an air circulation circuit connecting said product display area in direct air flow communication with said compartment.

10. A medium temperature refrigerated merchandiser system comprising:

an insulated cabinet defining a product display area wherein product is maintained in a refrigerated condition at a temperature at or above 32 degrees F and having a compartment separate from the product display area;

a relatively high air side pressure drop evaporator disposed within said compartment, said evaporator being a fin and tube exchanger having a fin density in the range of 6 fins per inch to 15 fins per inch;

at least one air circulator disposed within said compartment in cooperative relationship with said evaporator; and

an air circulation circuit connecting said product display area in direct air flow communication with said compartment.

11. A medium temperature refrigerated merchandiser system as recited in claim 9 wherein said fins of said evaporator have an enhanced heat transfer configuration.

12. A medium temperature refrigerated merchandiser system as recited in claim 9 wherein said at least one air circulator comprises a plurality of fans disposed in spaced relationship along said evaporator at spaced intervals of about 2 feet.

13. A medium temperature refrigerated merchandiser system as recited in claim 9 wherein said evaporator is disposed in a draw through flow arrangement with respect to said at least one air circulator whereby said at least one_ air circulator draws circulating air from said product display area through said evaporator.

14. A medium temperature refrigerated merchandiser system as recited in claim 10 wherein said fins of said evaporator have an enhanced heat transfer configuration.

15. A medium temperature refrigerated merchandiser system as recited in claim 10 wherein said at least one air circulator comprises a plurality of fans disposed in spaced relationship along said evaporator at spaced intervals of about 2 feet.

16. A medium temperature refrigerated merchandiser system as recited in claim 10 wherein said evaporator is disposed in a draw through flow arrangement with respect to said at least one air circulator whereby said at least one air circulator draws circulating air from said product display area through said evaporator.

17. A medium temperature refrigerated merchandiser system as recited in claim 6 wherein said at least one air circulator comprises a plurality of fans disposed in spaced relationship along said evaporator at spaced intervals of about 2 feet.

18. A medium temperature refrigerated merchandiser system as recited in claim 6 wherein said evaporator is disposed in a draw through flow arrangement with respect to said at least one air circulator whereby said at least one air circulator draws circulating air from said product display area through said evaporator.

EVIDENCE APPENDIX

Not Applicable

RELATED PROCEEDINGS APPENDIX

Not Applicable